```
import pandas as pd
import math
from sklearn import preprocessing
#from sklearn.preprocessing import StandardScaler
```

```
data = pd.read_csv('/content/Student-University.csv',names=['x1','x2','y'])
data
```

	x1	x2	y
0	34.623660	78.024693	0
1	30.286711	43.894998	0
2	35.847409	72.902198	0
3	60.182599	86.308552	1
4	79.032736	75.344376	1
...	...	...	...
95	83.489163	48.380286	1
96	42.261701	87.103851	1
97	99.315009	68.775409	1
98	55.340018	64.931938	1
99	74.775893	89.529813	1

100 rows × 3 columns

```
b0=0.0
b1=0.0
b2=0.0
```

```
from sklearn.model_selection import train_test_split
```

```
from sklearn.model_selection import KFold
```

```
x = data.iloc[:,[0,1]].values
#x = data.drop(columns=["y"])
y = data.iloc[:,2].values
xp=preprocessing.scale(x)
kf=KFold(n_splits=5)
```

```
import numpy as np
for train_index,test_index in kf.split(xp):
    xtrain,xtest,ytrain,ytest=train_test_split(xp,y,test_size=0.20,random_state=0)
    x1=xtrain[:,0]
    x2=xtrain[:,1]
    b0=0.0
    b1=0.0
    b2=0.0
    epoch=100
    alpha=0.001
    while(epoch>0):
        for i in range(len(xtrain)):
            prediction=1/(1+np.exp(-(b0+b1*x1[i]+b2*x2[i])))
            b0=b0+alpha*(ytrain[i]-prediction)*prediction*(1-prediction)*1.0
            b1=b1+alpha*(ytrain[i]-prediction)*prediction*(1-prediction)*x1[i]
            b2=b2+alpha*(ytrain[i]-prediction)*prediction*(1-prediction)*x2[i]
        epoch=epoch-1
        print(b0)
        print(b1)
        print(b2)


```

```
0.0019948281725557983
0.005482531972233602
0.005544755419849717
0.003977543227052592
0.010936676472719009
0.011061238086772042
0.005948080973156311
0.016362266488006375
0.016549290983486464
0.007906383552040102
```

```
0.021759149314370507
0.022008770586704206
0.00985239931755479
0.027127186313723645
0.027439546637175405
0.011786082711940515
0.03246625265646178
0.03284150189778506
0.013707394136594558
0.03777623705237219
0.038214531900733754
0.015616299818402372
0.04305704147071598
0.04355854468482554
0.01751277167212845
0.04830858085058014
0.04887346052386708
0.019396787159352023
0.05353078280257157
0.05415921164716242
0.02126832914441921
0.058723587302899304
0.05941574195306194
0.02312738574786884
0.0638869463808623
0.06464300671649897
0.02497395019777337
0.0690208238007288
0.06984097229141732
0.026808020679419637
0.07412519473895886
0.07500961580896186
0.02862960018373704
0.07920004545768576
0.08014892487227171
0.030438696354862023
0.08424537297533509
0.08525889724868033
0.03223532133720985
0.08926118473522049
0.09033954056009205
0.03401949162240503
0.09424749827291536
0.09539087197226635
0.03579122789640271
0.09920434088315931
0.10041291788370667
0.037550554887114 48
```

```
print(b0)
print(b1)
print(b2)
```

```
0.14400067274983724
0.4152360791546616
0.4218165247499544
```

```
finalpred=[]
ypred=[]
#ypred=[0]*len(xtest)
x3 = xtest[:,0]
x4 = xtest[:,1]
for i in range(len(xtest)):
    ypred.append(np.round(1/(1+np.exp(-(b0+(b1*x3[i])+(b2*x4[i]))))))
    print(ypred[i])
    #finalpred.append(np.round(ypred[i]))
```

```
0.0
0.0
0.0
0.0
1.0
1.0
0.0
1.0
0.0
1.0
0.0
0.0
0.0
1.0
0.0
1.0
0.0
1.0
0.0
1.0
```

```
1 from sklearn.metrics import accuracy_score
```

```
1 print("Accuracy",accuracy_score(ytest,ypred))
```

```
Accuracy 0.8
```